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Site Index Equations

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SITE INDEX EQUATIONS

A generalized sigmoid growth function was used in this study to model site index for unmanaged or low-intensity managed loblolly pine (Pinus taeda, L.) and slash pine (Pinus elliottii, Engelm.) plantations in east Texas. In this study, Schnute□s growth function was fit to 11,367 and 5,040 height-age observations of loblolly and slash pine, respectively. These data were collected over a 20-year period from unmanaged pine plantations located across the east Texas region as a part of the East Texas Pine Plantation Research Project (ETPPRP). The fit model was used to derive site index equations (25-year index age). The site index equations apply to unmanaged or low intensity managed loblolly (Figure 1) and slash (Figure 2) pine plantations in east Texas ranging in age from 5 to 40 years. They can also serve as a baseline for site index estimation of intensely managed pine plantations.

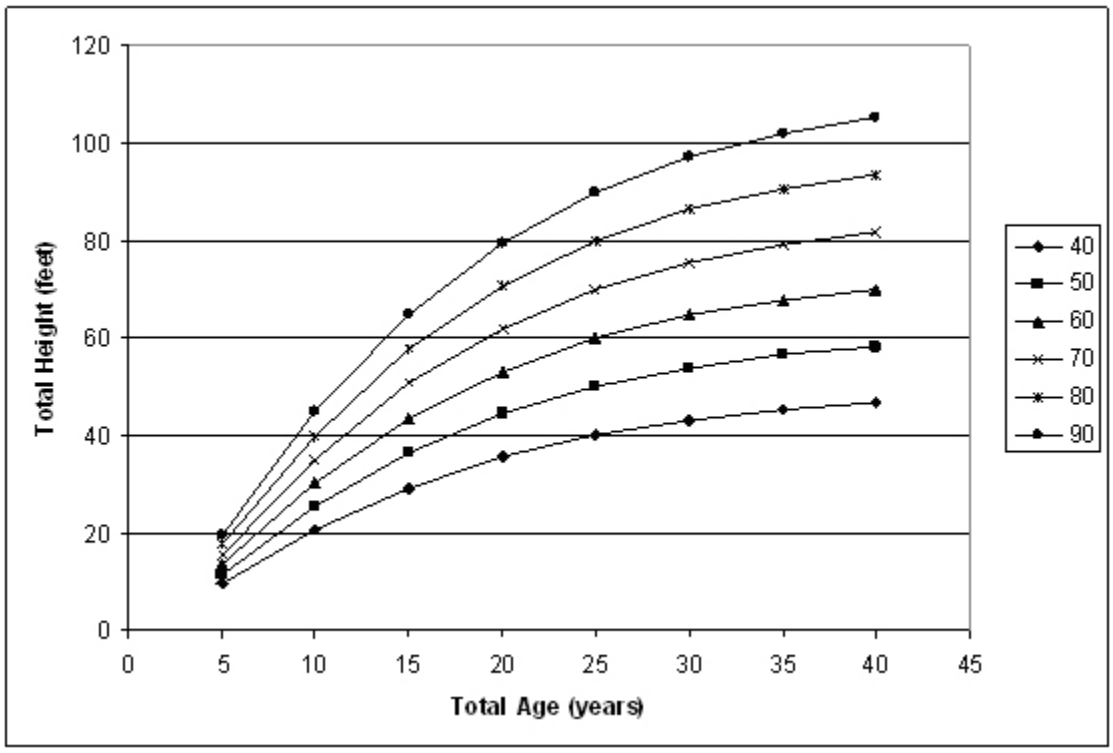

Figure 1--Site index curves (in feet, index age = 25 years) for unmanaged loblolly pine plantations in east Texas.

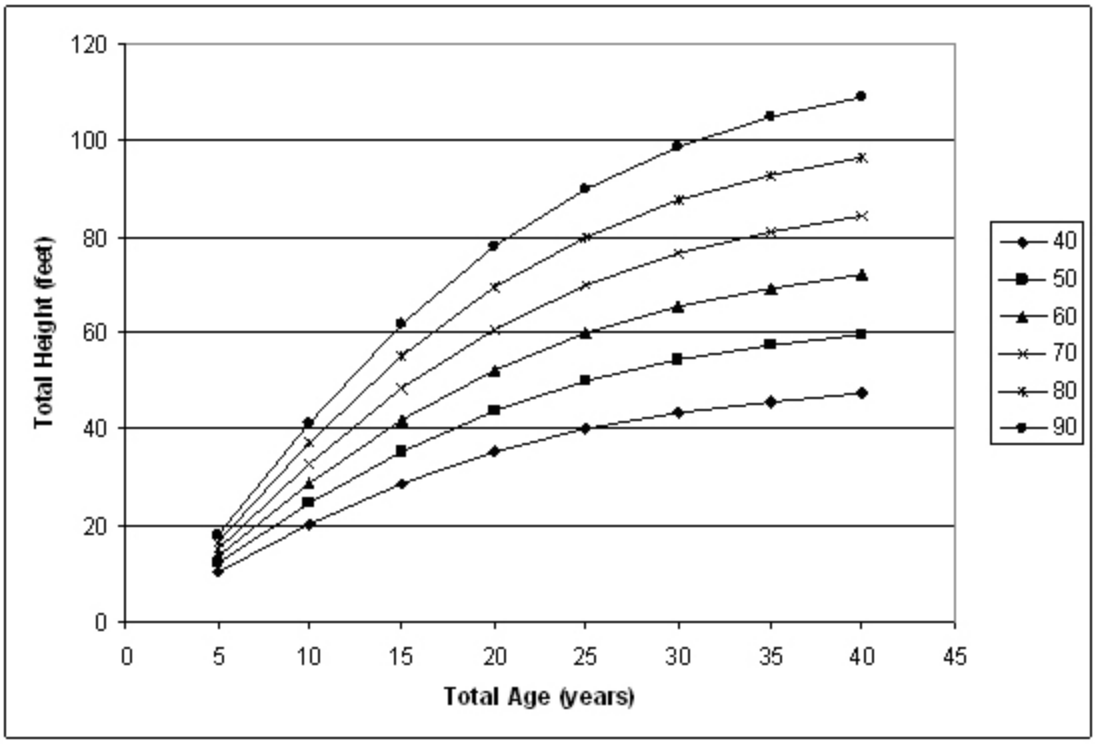

Figure 2--Site index curves (in feet, index age = 25 years) for unmanaged slash pine plantations in east Texas.

References

Coble, D.W., and Y.J. Lee. 2006. Use of a generalized sigmoid growth function to predict site index for unmanaged loblolly and slash pine plantations in east Texas. In: Proceedings of the 13th Biennial Southern Silvicultural Research Conference, 2006; Connor, K.F., editor. USDA For. Serv. Gen. Tech. Rep. SRS □ 92, p. 291 □ 295.

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Coble, D.W., and Y.J. Lee. 2010. Self-referencing site index equations for unmanaged loblolly and slash pine plantations in east Texas. Stanturf, John A., ed. 2010. Proceedings of the 14th biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-121. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 614 p.

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